UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/144,635	08/31/1998	DALE L. BARTHOLOMEW	VE14.10	5034

32127 7590 10/22/2009

VERIZON LEGAL DEPARTMENT
PATENT MANAGEMENT GROUP
1320 N. COURTHOUSE ROAD
9TH FLOOR
ARLINGTON, VA 22201-2525

EXAMINER	
NG, CHRISTINE Y	
ART UNIT	PAPER NUMBER
2464	

NOTIFICATION DATE	DELIVERY MODE
10/22/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@VERIZON.COM

Office Action Summary	Application No.	Applicant(s)	
	09/144,635	BARTHOLOMEW ET AL.	
	Examiner	Art Unit	
	CHRISTINE NG	2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-12,14-18,21-34,36 and 41-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-12,14-18,21-34,36 and 41-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 August 1998* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 27, 32-34, 36, 46, 47, 54 and 59-61 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,035,020 to Weinstein et al.

Referring to claim 27, Weinstein et al disclose in Figure 1 a method comprising:

Receiving, from a customer premises (122) via a local link (subscriber line 110), a signal at a program controlled switch (switch 120) associated with a line unit (line card 115) in a telecommunications network. Switch 120 is connected to line cards 115.

Scanning said local link at said switch associated with said line unit to provide monitoring (via DTMF receiver 123 and prefix recognizer 125) of said signal. Switch 120 acts as a scanning device since it selectively connects either PC 122 or other devices 121 from the local link 110 to the signal detector (DTMF receiver 123 and prefix recognizer 125) for monitoring. Refer to Column 4, lines 12-26.

Making a determination, via a monitor (DTMF receiver 123 and prefix recognizer 125), regarding a pre-established characteristic of said signal (dialed telephone numbers could be directed to the telephone system or data network 185; numbers to

data network 185 are preceded with a prefix; Column 4, line 55 to Column 6, line 10). DTMF receiver 123 and prefix recognizer 125 control voice/data switch 130 to send voice requests to voice-band filter 145 for transmission to a telephone system, and to send data requests to concentrator 160 for transmission to data network 185. Refer to Column 4, line 55 to Column 6, line 35.

Responsive to said determination (if signal is directed to data network 185), solid state switching said signal to a digital signal processor (modems 167) and a wide band network edge device (router/data switch 180). Modems 167 convert between modulated line signals and baseband digital signals, and send the signals to router/data switch 180. Refer to Column 6, line 48 to Column 7, line 14.

Referring to claim 32, Weinstein et al disclose in Figure 1 wherein said digital signal processing occurs in said edge device. Modems 167 and connected to router/data switch 180. Refer to Column 6, line 48 to Column 7, line 14.

Referring to claim 33, Weinstein et al disclose in Figure 1 wherein said digital signal processing is performed in a processor (modem bank 170) separate from said wide band edge device. Refer to Column 6, lines 11-13.

Referring to claim 34, Weinstein et al disclose in Figure 1 wherein said digital signal processor is associated with said line unit. Signals are transmitted from lines cards 115 to modems 167. Refer to Column 5, line 62 to Column 6, line 10.

Referring to claim 36, Weinstein et al disclose in Figure 1 wherein said digital signal processing is performed in an adaptive digital signal processor (modem 167) with a programmed controller providing coding and decoding functions (conversion between

modulated line signals and baseband digital signals) adapted to a particular communication service requested by said signal and the physical level of signal protocol used over said local link from said customer premises. Each customer premises equipment uses different forms of line signals. Refer to Column 6, lines 48-54.

Referring to claim 46, Weinstein et al disclose in Figure 1 a line unit (line card 115) for selective connection of a local link (subscriber line 110) to a digital switch (voice switch 155 and router/data switch 180) of a telephone network and a broadband data network (185). The line unit comprising:

A switch (voice/data switch 130) for connection to the local link, the switch comprising a first port (output 135) for a narrowband communication and a second port (output 140) for connection to the broadband data network.

The switch further configured for scanning each of a set of local links.

The switch further comprising a controller for controlling the scanning. Voice/data switch 130 is connected to switch 120. Switch 120 acts as a scanning device since it selectively connects either PC 122 or other devices 121 from the local link to the signal detector (DTMF receiver 123 and prefix recognizer 125) for monitoring. Refer to Column 4, lines 12-26.

A monitor means (DTMF receiver 123 and prefix recognizer 125) for detecting a request for a broadband service, the monitor being in selective communication with the controller to monitor at least one of the set of local links and in response controlling the switch to connect the local link to the second port. DTMF receiver 123 and prefix recognizer 125 control voice/data switch 130 to send voice requests to voice-band filter

145 for transmission through output 135 to a telephone system, and to send data requests to concentrator 160 for transmission through output 140 to data network 185. Refer to Column 4, line 55 to Column 6, line 35.

Referring to claim 47, Weinstein et al disclose in Figure 1 that the line unit further comprises a channel circuit (connection of voice/data switch 130 to output 135), coupled to the first port, for channeling signals for communication via the local link and a predetermined digital rate channel (300 Hz to 3300 Hz) corresponding to the narrowband communication. Refer to Column 5, lines 25-34.

Referring to claim 54, Weinstein et al disclose in Figure 1 a method comprising:

Receiving, from a customer premises terminal (122) to a local link (subscriber line 110) to a line unit (line card 115) and telephone network switch (voice switch 155) in a switched telephone network, a request for a communication path to a destination. Refer to Column 4, lines 12-35 and Column 5, lines 36-43.

Controlling a scanning device (switch 120) to selectively connect a detector (DTMF receiver 123 and prefix recognizer 125) to the local link, wherein the scanning device and detector are associated with said line unit (switch 120 is connected to line cards 115; DTMF receiver 123 and prefix recognizer 125 are located in line cards 115).

Using said detector to identify a data sequence (dialed telephone numbers could be directed to the telephone system or data network 185; numbers to data network 185 are preceded with a prefix) generated by said terminal. Refer to Column 4, line 55 to Column 6, line 35.

Determining based on said data sequence that said request does not seek conversion (in voice-band filter 145) said line unit.

Responsive to said determination, connecting said communication path through a portion of said line unit around a converter (A/D converter in voice-band filter 145) in said line unit to a wide band data switch (router/data switch 180) connected to a data network (185), wherein said connecting step through a portion of said line unit around a converter therein to a wide band switch is a virtual hard wired connection (lines 165 and 175). Switch 120 acts as a scanning device since it selectively connects either PC 122 or other devices 121 from the local link to the detector (DTMF receiver 123 and prefix recognizer 125) for monitoring. Refer to Column 4, lines 12-26. DTMF receiver 123 and prefix recognizer 125 control voice/data switch 130 to send voice requests from PC 122 or other devices 121 to voice-band filter 145 for transmission through voice-band filter 145 to a telephone system, and to send data requests to concentrator 160 for transmission to data network 185. Refer to Column 4, line 55 to Column 6, line 35.

Referring to claim 59, refer to the rejection of claim 27, 33 and 34.

Referring to claim 60, refer to the rejection of claim 34.

Referring to claim 61, refer to the rejection of claim 36.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3-7, 9-12, 15, 17, 18, 21-26, 28-30, 41-45, 56 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,035,020 to Weinstein et al in view of U.S. Patent No. 5,692,043 to Gliga et al.

Referring to claim 1, Weinstein et al disclose in Figure 1 a method comprising:

Receiving, from a customer premises terminal (122) via a local link (subscriber line 110) to a line unit (line card 115) in a switched telephone network, a request for a communication path to a destination. Refer to Column 4, lines 12-35 and Column 5, lines 36-43.

Establishing a communication path from said local link through said line unit. Local links 110 are connected to line cards 115. Refer to Column 4, lines 12-35.

Controlling a scanning device (switch 120) to selectively connect a detector (DTMF receiver 123 and prefix recognizer 125) to the local link, wherein the scanning device and detector are associated with said line unit (switch 120 is connected to line cards 115; DTMF receiver 123 and prefix recognizer 125 are located in line cards 115).

Using said detector to identify a data sequence characteristic (dialed telephone numbers could be directed to the telephone system or data network 185; numbers to data network 185 are preceded with a prefix) generated by said terminal. Refer to Column 4, line 55 to Column 6, line 35.

Determining based on said data sequence that said request does not seek conversion (in voice-band filter 145) said line unit.

Responsive to said determination, connecting said communication path through a portion of said line unit around a converter (A/D converter in voice-band filter 145) in

said line unit to a wide band data switch (router/data switch 180) connected to a data network (185). Switch 120 acts as a scanning device since it selectively connects either PC 122 or other devices 121 from the local link to the detector (DTMF receiver 123 and prefix recognizer 125) for monitoring. Refer to Column 4, lines 12-26. DTMF receiver 123 and prefix recognizer 125 control voice/data switch 130 to send voice requests from PC 122 or other devices 121 to voice-band filter 145 for transmission through voice-band filter 145 to a telephone system, and to send data requests to concentrator 160 for transmission to data network 185. Refer to Column 4, line 55 to Column 6, line 35.

Weinstein et al do not disclose in Figures 1 and 2 establishing a communication path from said local link through *a concentrator network* in said line unit; and responsive to said determination, connecting said communication path from *said concentrator network* through a portion of said line unit around a converter in said line unit to a wide band data switch connected to a data network.

Gliga et al disclose in Figures 1 and 2 that each line unit 106 is equipped with a concentrator that concentrates 700-100 telephone lines onto 120 channels. Concentration is a form of economic switch design that provides only enough crosspoints to support a certain number of subscribers requiring service, which reduces system costs. Refer to Column 1, line 15-30; and Column 3, line 19 to Column 4, line 44. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include establishing a communication path from said local link through *a concentrator network* in said line unit; and responsive to said determination, connecting said communication path from *said concentrator network*

through a portion of said line unit around a converter in said line unit to a wide band data switch connected to a data network. One would have been motivated to do so to reduce system costs.

Referring to claim 3, Weinstein et al disclose in Figure 1 wherein said converter comprises a CODEC (A/D converter in voice-band filter 145). Refer to Column 5, lines 25-47.

Referring to claims 4, 5 and 9, Weinstein et al do not disclose wherein said concentrator network includes a switching system [claim 4]; wherein said switching system provides hard wired switching [claim 5]; and wherein said switching system comprises cross point switching [claim 9].

Gliga et al disclose in Figures 1 and 2 that each line unit 106 is equipped with a concentrator that uses crosspoint switching. Refer to Column 3, lines 56-63. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein said concentrator network includes a switching system [claim 4]; wherein said switching system provides hard wired switching [claim 5]; and wherein said switching system comprises cross point switching [claim 9]. One would have been motivated to do so since the concentration process requires switching signals, and crosspoint switching provides a high rate of data transfer.

Referring to claim 6, Weinstein et al disclose in Figure 1 wherein the switching in said switching system provides hard wired switching (refer to the rejection of claims 1, 4 and 5) between said terminal and said wide band data switch. DTMF receiver 123 and

prefix recognizer 125 can send data requests from terminal 121/122 to wide band data switch (router/data switch 180). Refer to Column 5, line 62 to Column 6, line 22.

Referring to claim 7, Weinstein et al disclose in Figure 1 wherein said switching system (refer to the rejection of claims 1 and 4) is connected to a DSP (modems 167). Modems 167 convert between modulated line signals and baseband digital signals. Refer to Column 6, line 48 to Column 7, line 14.

Referring to claim 10, Weinstein et al disclose in Figure 1 wherein said digital signal processor is indirectly associated with said line unit. Modems 167 are connected to line cards 115 though links 175, concentrator 160 and lines 165.

Referring to claim 11, Weinstein et al disclose in Figure 1 wherein said digital signal processor is directly associated with said wide band data switch. Modems 167 are connected to router/data switch 180. Refer to Column 6, line 48 to Column 7, line 14.

Referring to claim 12, Weinstein et al disclose in Figure 1 wherein said digital signal processor is integrated with said line unit. Modems 167 are connected to line cards 115 though links 175, concentrator 160 and lines 165.

Referring to claim 15, Weinstein et al disclose in Figure 1 wherein said connecting step through a portion of said line unit around a converter therein to a wide band switch is a virtual hard wired connection (lines 165 and 175). Refer to Column 5, line 62 to Column 6, line 22.

Referring to claim 17, Weinstein et al disclose in Figure 1 wherein said line unit comprises a line card (line cards 115).

Referring to claim 18, refer to the rejection of claim 1. Furthermore, Weinstein et al disclose that the request seeks bandwidth in excess of that available through said line unit. Data services require more bandwidth than telephone services. Refer to Column 8, lines 10-28; and Column 9, lines 42-48.

Referring to claim 21, refer to the rejection of claim 4.

Referring to claim 22, refer to the rejection of claim 5.

Referring to claim 23, refer to the rejection of claim 6.

Referring to claim 24, refer to the rejection of claim 7.

Referring to claim 25, refer to the rejection of claim 10.

Referring to claim 26, refer to the rejection of claim 11.

Referring to claims 28 and 29, Weinstein et al do not disclose wherein said solid state switching comprises cross-point switching [claim 28]; and wherein said cross point switching is performed in a line unit in said telecommunications network [claim 29].

Gliga et al disclose in Figures 1 and 2 that each line unit 106 is equipped with a concentrator that uses crosspoint switching. Refer to Column 3, lines 56-63. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein said solid state switching comprises cross-point switching [claim 28]; and wherein said cross point switching is performed in a line unit in said telecommunications network [claim 29]. One would have been motivated to do so since the concentration process requires switching signals, and crosspoint switching provides a high rate of data transfer.

Referring to claim 30, Weinstein et al disclose in Figure 1 wherein cross point switching (refer to the rejection of claims 28 and 29) directs said signal away from a two-way digital/analog converter (A/D converter in voice-band filter 145) in said line unit having predetermined narrowband digital bit-rate capabilities (300 Hz to 3300 Hz). Refer to Column 5, lines 25-34.

Referring to claim 41, Weinstein et al disclose in Figure 1 a line unit (line card 115) for a switched telecommunications network comprising trunked together program controlled switches (connection between line card 115 and subscriber line 110) connected to subscriber premises (122) by local links (subscriber lines 110) connected to the line unit. Refer to Column 4, lines 12-43. The line unit comprising:

Switches (voice/data switch 130), and a high bandwidth port (output 140 of voice/data switch 135).

Customer interface hardware (interface to local link 110).

A converter (voice-band filter 145) for converting signals on the plurality of local links to digital signals at a predetermined narrowband bit-rate (300 Hz to 3300 Hz).

A scanning device (switch 120) that is configured to sequentially connect to local link.

A monitor (DTMF receiver 123 and prefix recognizer 125) in communication with said scanning device, wherein the monitor is configured to, upon detecting a pre-designated signal (dialed telephone numbers could be directed to the telephone system or data network 185; numbers to data network 185 are preceded with a prefix; Column 4, line 55 to Column 6, line 10) on a local link connected within said sequence, generate

an output signal to said *line card 115* to cause said *line card 115* to provide a connection to said port for signals on said link. DTMF receiver 123 and prefix recognizer 125 control voice/data switch 130 to send voice requests to voice-band filter 145 for transmission through output 135 to a telephone system, and to send data requests to concentrator 160 for transmission through output 140 to data network 185. Refer to Column 4, line 12 to Column 6, line 35.

Weinstein et al do not disclose that the line unit *comprises a line concentrator network for connection to a plurality of local links, said concentrator network including* switches and a high bandwidth port; *a plurality of local links*; and that the monitor generates an output signal to *said concentrator network* to cause *said concentrator network* to provide a connection to said port for signals on said link.

Gliga et al disclose in Figures 1 and 2 that each line unit 106 is equipped with a concentrator that concentrates 700-100 telephone lines onto 120 channels. Concentration is a form of economic switch design that provides only enough crosspoints to support a certain number of subscribers requiring service, which reduces system costs. Refer to Column 1, line 15-30; and Column 3, line 19 to Column 4, line 44. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the line unit *comprises a line concentrator network for connection to a plurality of local links, said concentrator network including* switches and a high bandwidth port; *a plurality of local links*; and that the monitor generates an output signal to *said concentrator network* to cause *said concentrator*

network to provide a connection to said port for signals on said link. One would have been motivated to do so to reduce system costs.

Referring to claim 42, Weinstein et al do not disclose wherein said concentrator network comprise solid state switches.

Gliga et al disclose in Figures 1 and 2 that each line unit 106 is equipped with a concentrator that uses crosspoint switching. Refer to Column 3, lines 56-63. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein said concentrator network comprise solid state switches. One would have been motivated to do so since the concentration process requires switching signals, and crosspoint switching provides a high rate of data transfer.

Referring to claim 43, Weinstein et al disclose in Figure 1 wherein the concentrator switches create a hard wired connection (refer to the rejection of claim 41) to said port for the one link. Line cards 115 provide connection to output 140 for connection to data network 185. Refer to Column 5, line 62 to Column 6, line 10.

Referring to claim 44, Weinstein et al disclose in Figure 1 wherein said line unit delivers said signals on the one link to said port in unconverted format. Signals sent to output 140 have not been converted into digital signals by modem 167. Refer to Column 5, line 62 to Column 6, line 54.

Referring to claim 45, refer to the rejection of claim 36.

Referring to claim 56, refer to the rejection of claims 27, 28, 29 and 30.

Referring to claim 58, Weinstein et al disclose in Figure 1 wherein said digital signal processing occurs in said edge device. Modems 167 and connected to router/data switch 180. Refer to Column 6, line 48 to Column 7, line 14.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,035,020 to Weinstein et al in view of U.S. Patent No. 5,692,043 to Gliga et al, and in further view of U.S. Patent No. 5,085,913 to Wong.

Weinstein et al do not disclose wherein said switching system comprises gated-diode cross point (GDX) switching.

Wong discloses that gated diode cross-point switches are used in high voltage electronic devices that may develop voltages in excess of 600 volts. Refer to Column 2, lines 34-44. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein said switching system comprises gated- diode cross point (GDX) switching. One would have been motivated to do so in order to utilize high voltage switching.

6. Claims 14 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,035,020 to Weinstein et al in view of U.S. Patent No. 5,692,043 to Gliga et al, and in further view of U.S. Patent No. 6,083,280 to Eitel.

Referring to claim 14, Weinstein et al do not disclose signaling a CPU controlling said telephone network switch to effect an entry in a journal of a telephone network switch, and using said entry for billing for the communications path set up in response to said receiving step.

Eitel discloses that when a call request is first received by a local telephone switch by the calling party, a billing file is created based upon factors such as the service rate of the calling party, the identity of the called party, time of day, etc. Once the billing file is created, a controller of the local switch can determine how to establish the connection to the called party. Refer to Column 1, lines 43-60. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to include signaling a CPU controlling said telephone network switch to effect an entry in a journal of a telephone network switch, and using said entry for billing for the communications path set up in response to said receiving step. One would be motivated to do so in order to provide a method of billing the customer for a particular communications session.

Referring to claim 53, refer the rejection of claim 1 and claim 14.

7. Claims 16 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,035,020 to Weinstein et al in view of U.S. Patent No. 5,692,043 to Gliga et al, and in further view of U.S. Patent No. 6,480,487 to Wegleitner et al.

Weinstein et al do not disclose wherein said connection to said wide band network is through an Asynchronous Transfer Mode (ATM) edge device.

Wegleitner et al disclose in Figure 1 a remote terminal that sends signals to either a CO12 for connection to a PSTN network or an ATM switch 24 for connection to a broadband ISP. A connection to a wide band network (broadband ISP) is thus made through an ATM edge device (ATM switch 24). Refer to Column 6, line 39 to Column 7, line 8, line 7; and Column 8, lines 14-37. Therefore, it would have been obvious to one

of ordinary skill in the art at the time the invention was made to include wherein said connection to said wide band network is through an ATM edge device. One would have been motivated to do so since ATM is a packet switching protocol that supports voice, video and data over a single network, and allows high bandwidth utilization.

8. Claims 31 and 55 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6035020 to Weinstein et al in view of U.S. Patent No. 6,480,487 to Wegleitner et al. Refer to the rejection of claims 16 and 57.

9. Claims 48, 51, 52 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6035020 to Weinstein et al in view of U.S. Patent No. 6,163,599 to McHale.

Referring to claim 48, refer to the rejection of claims 46 and 47.

However, Weinstein et al do not disclose that the monitor includes a scan point matrix switches.

McHale disclose in Figure 4 a cross-point matrix switch that switches a plurality of input data lines 54/150 to a plurality of output data lines 72/152. Refer to Column 10, line 50 to Column 11, line 3. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the monitor includes a scan point matrix switches. One would be motivated to do so in order to provide the monitor with a means of switching signals from certain input lines to certain output lines.

Referring to claims 51 and 52, Weinstein et al disclose in Figure 1 that the monitor (DTMF receiver 123 and prefix recognizer 125) includes a signal processor (to distinguish between voice and data calls) and a controller (to control voice/data switch

130), wherein the controller is located in the line unit. DTMF receiver 123 and prefix recognizer 125 control voice/data switch 130 to send voice requests to voice-band filter 145 for transmission through voice-band filter 145 to a telephone system, and to send data requests to concentrator 160 for transmission to data network 185. Refer to Column 4, line 55 to Column 6, line 35.

However, Weinstein et al do not disclose that the monitor includes a scan point matrix switches.

McHale disclose in Figure 4 a cross-point matrix switch that switches a plurality of input data lines 54/150 to a plurality of output data lines 72/152. Refer to Column 10, line 50 to Column 11, line 3. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the monitor includes a scan point matrix switches. One would be motivated to do so in order to provide the monitor with a means of switching signals from certain input lines to certain output lines.

Referring to claim 62, Weinstein et al disclose in Figure 1 wherein the monitor is configured to selectively monitor subsequent local links in a set of local links. DTMF receiver 123 and prefix recognizer 125 monitors a plurality of signals from PC 122 and others devices 121.

10. Claims 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6035020 to Weinstein et al in view of U.S. Patent No. 5,692,043 to Gliga et al, and in further view of U.S. Patent No. 6,163,599 to McHale.

Weinstein et al disclose in Figure 1 that the detector (DTMF receiver 123 and prefix recognizer 125) includes a signal processor (to distinguish between voice and

data calls) and a controller (to control voice/data switch 130). DTMF receiver 123 and prefix recognizer 125 control voice/data switch 130 to send voice requests to voice-band filter 145 for transmission through voice-band filter 145 to a telephone system, and to send data requests to concentrator 160 for transmission to data network 185. Refer to Column 4, line 55 to Column 6, line 35.

However, Weinstein et al do not disclose that the scanning device includes a scan point matrix switches.

McHale disclose in Figure 4 a cross-point matrix switch that switches a plurality of input data lines 54/150 to a plurality of output data lines 72/152. Refer to Column 10, line 50 to Column 11, line 3. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the scanning includes a scan point matrix switches. One would be motivated to do so in order to provide the monitor with a means of switching signals from certain input lines to certain output lines.

Response to Arguments

11. Applicant's arguments filed June 17, 2009 have been fully considered but they are not persuasive.

Referring to the argument of claim 27 that Weinstein et al do not disclose scanning the local link at switch 120 and that switch 120 is not associated with a line unit (page 13, line 20 to page 14, line 19): Switch 120 acts as a scanning device since it selectively connects either PC 122 or other devices 121 from the local link (subscriber link 110) to the detector (DTMF receiver 123 and prefix recognizer 125) for monitoring. Switch 120 reads on a “scanning device” since it performs the function of the scanning

device that is claimed, which is to connect either PC 122 or other devices 121 from the local link to the detector. Switch 120 "selectively" connects the local link to the detector since switch 120 can connect either PC 122 or other devices 121 to the local link by scanning PC 122 and other devices 121 to determine which device needs access to the network. Switch 120 is also associated with a line unit since switch 120 is connected to line card 115 via subscriber link 110. Refer to Column 4, lines 12-26.

Referring to the argument of claim 46 that Weinstein et al do not disclose that the switch 130 is configured for scanning local links and scanning the local link at switch 120 (page 14, line 20 to page 15, line 15): Voice/data switch 130 is connected to switch 120. Switch 120 acts as a scanning device since it selectively connects either PC 122 or other devices 121 from the local link (subscriber link 110) to the signal detector (DTMF receiver 123 and prefix recognizer 125) for monitoring. Voice/data switch 130 works with switch 120 to scan the local link to determine whether PC 122 or other devices 121 needs access to the network, and which network (narrowband or broadband) that it needs. Refer to the argument for claim 27.

Referring to the argument of claim 46 that Weinstein et al do not disclose a controller for controlling the scanning (page 15, lines 16-26): The controller is switch 120 since it is connected to voice/data switch 130 and performs scanning. Refer to Column 4, lines 12-26. Refer to the argument for claim 27.

Referring to the argument of claim 54 that Weinstein et al do not disclose receiving a request for a communication path to a destination (page 16, lines 1-17): Subscribers send a request for a communication path by dialing a telephone number of

a destination. Refer to Column 4, lines 55-67. Voice switch 155 is used to route the call to the dialed destination number since it is a conventional telephone switching equipment. Refer to Column 5, lines 36-43.

Referring to the argument of claim 54 that Weinstein et al do not disclose controlling a scanning device (switch 120) to selectively connect a detector (DTMF receiver 123 and prefix recognizer 125) to the local link (subscriber line 110), wherein the scanning device and detector are associated with a line unit (line card 115) (page 16, lines 18-25): Switch 120 is connected to line cards 115; DTMF receiver 123 and prefix recognizer 125 are located in line cards 115. Refer to the argument for claim 27.

Referring to the argument of claim 59 (page 16, line 26 to page 17, line 2): Refer to the argument for claim 27.

Referring to the argument of claim 1 that Weinstein et al do not disclose a scanning device and detector, and scanning the local link (page 17, line 5 to page 6, line 8): Switch 120 reads on the scanning device, and DTMF receiver 123 and prefix recognizer 125 in combination read on the detector. The scanning device and detector are claimed as two separate elements. DTMF receiver 123 and prefix recognizer 125 control voice/data switch 130 to send voice requests from PC 122 or other devices 121 to voice-band filter 145 for transmission through voice-band filter 145 to a telephone system, and to send data requests to concentrator 160 for transmission to data network 185. Refer to Column 4, line 55 to Column 6, line 35. Also, switch 120 connects the detector (DTMF receiver 123 and prefix recognizer 125) to the local link (subscriber line 110) since switch 120 connects either PC 122 or other devices 121 from the local link to

the signal detector. Without switch 120, the connection between the local link and the signal detector would not be functional since the local link would not be connected to any device. Switch 120 completes the connection between the local link to the signal detector. Furthermore, switch 120 also connects devices to the signal detector via the local link. Refer to Column 4, lines 12-26. Refer also to the argument for claim 27.

Referring to the argument of claim 1 that Weinstein et al and Gliga et al do not disclose the concentrator network (page 18, lines 9-29): Weinstein et al disclose establishing a communication path from said local link through said line unit; and responsive to said determination, connecting said communication path through a portion of said line unit around a converter in said line unit to a wide band data switch connected to a data network. Refer to the rejection of claim 1. However, Weinstein et al do not disclose establishing a communication path from said local link through *a concentrator network* in said line unit; and responsive to said determination, connecting said communication path from *said concentrator network* through a portion of said line unit around a converter in said line unit to a wide band data switch connected to a data network. Therefore, Weinstein et al just do not disclose *a concentrator network* in said line unit. Gliga et al disclose in Figures 1 and 2 that each line unit 106 is equipped with a concentrator that concentrates 700-100 telephone lines onto 120 channels. Concentration is a form of economic switch design that provides only enough crosspoints to support a certain number of subscribers requiring service, which reduces system costs. Refer to Column 1, line 15-30; and Column 3, line 19 to Column 4, line

44. Gliga et al is just used to teach the benefits of using *a concentrator network* in said line unit, since Weinstein et al already disclose the other portions of the claim.

Referring to the argument of claim 18 (page 19, lines 1-5): Refer to the argument for claim 1.

Referring to the argument of claim 41 that switch 120 is not configured to sequentially connect to at least one of the plurality of local links (page 19, lines 10-24): Weinstein et al disclose a scanning device (switch 120) that is configured to sequentially connect to a local link. Refer to the rejection of claim 41. However, Weinstein do not disclose that the switch is configured to sequentially connect to *at least one of the plurality of local links*. Gliga et al disclose in Figures 1 and 2 that each line unit 106 is equipped with a concentrator that concentrates 700-100 telephone lines onto 120 channels. Concentration is a form of economic switch design that provides only enough crosspoints to support a certain number of subscribers requiring service, which reduces system costs. Refer to Column 1, line 15-30; and Column 3, line 19 to Column 4, line 44. Gliga et al is just used to teach the benefits of using *a plurality of local links*, since Weinstein et al already disclose the other portions of the claim. Furthermore, Weinstein et al disclose in Figure 1 a plurality of subscriber lines 110.

Referring to the argument of claim 41 that Weinstein et al do not disclose that the monitor generates an output signal to said concentrator network to cause concentrator network to provide a connection to said port (page 19, line 25 to page 20, line 18): Weinstein et al disclose a monitor (DTMF receiver 123 and prefix recognizer 125) in communication with said scanning device, wherein the monitor is configured to, upon

detecting a pre-designated signal (dialed telephone numbers could be directed to the telephone system or data network 185; numbers to data network 185 are preceded with a prefix; Column 4, line 55 to Column 6, line 10) on a local link connected within said sequence, generate an output signal to said *line card 115* to cause said *line card 115* to provide a connection to said port for signals on said link. DTMF receiver 123 and prefix recognizer 125 control voice/data switch 130 in line card 115 to send voice requests to voice-band filter 145 for transmission through output 135 to a telephone system, and to send data requests to concentrator 160 for transmission through output 140 to data network 185. Refer to Column 4, line 12 to Column 6, line 35. Weinstein et al do not disclose that the monitor generates an output signal to *said concentrator network* to cause *said concentrator network* to provide a connection to said port for signals on said link. Gliga et al is just used to teach the benefits of using *a concentrator network*, since Weinstein et al already disclose the other portions of the claim.

Referring to the argument of claim 48 (page 20, lines 19-23): Refer to the argument for claim 46.

Referring to the argument of claim 53 (page 20, lines 24-27): Refer to the argument for claim 1.

Referring to the argument of claim 56 (page 21, lines 1-5): Refer to the argument for claim 27.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE NG whose telephone number is (571)272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C. Ng
October 7, 2009

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2464